

*Citation for published version:*

Pitelis, C & Tomlinson, PR 2017, 'Industrial organisation, the degree of monopoly and macroeconomic performance – a perspective on the contribution of Keith Cowling (1936-2016)', *International Journal of Industrial Organization*, vol. 55, pp. 182-189. <https://doi.org/10.1016/j.ijindorg.2017.10.004>

*DOI:*

[10.1016/j.ijindorg.2017.10.004](https://doi.org/10.1016/j.ijindorg.2017.10.004)

*Publication date:*

2017

*Document Version*

Peer reviewed version

[Link to publication](#)

## University of Bath

### Alternative formats

If you require this document in an alternative format, please contact:  
[openaccess@bath.ac.uk](mailto:openaccess@bath.ac.uk)

#### General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

#### Take down policy

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

# **Industrial organisation, the degree of monopoly and macroeconomic performance – a perspective on the contribution of Keith Cowling (1936-2016)**

Christos Pitelis<sup>1</sup>, Brunel University London and Queens' College, Cambridge

Philip R Tomlinson<sup>2</sup>, School of Management and Institute for Policy Research, University of Bath, UK. [P.R.Tomlinson@bath.ac.uk](mailto:P.R.Tomlinson@bath.ac.uk)

**JEL Codes:** L00, L12, L5, L52, POO

**Acknowledgements.** We are grateful to J Robert Branston, Dan Coffey, Marc Cowling, Roger Sugden, Michael Waterson and James R Wilson for comments and feedback on earlier drafts. Errors are ours.

---

<sup>1</sup> Christos Pitelis was a PhD student of Keith Cowling between 1982 and 1984.

<sup>2</sup> Philip R Tomlinson was a PhD student of Keith Cowling between 1997 and 2001 and his co-author.

## 1. Introduction

Keith Cowling (1936-2016) is widely seen as the father figure of British Industrial Economics and a key contributor to the then emerging field of *Industrial Organisation (IO)*. He supervised a legion of PhDs including scholars such as Michael Waterson and the late Paul Geroski. Keith was one of Europe's foremost economists, an early President of the European Association for Research in Industrial Economics (EARIE), and the founding editor of this journal. He had also co-founded the European Network on Industrial Policy (EUNIP)

Born in Scunthorpe in 1936, the son of a train driver, Keith was a triallist in his teens at Scunthorpe United Football Club. He studied Agricultural Sciences at Wye College, a branch of the University of London, where his interests moved to agricultural economics. After completing his doctorate at the University of Illinois on productivity in agriculture, Keith began his academic career in 1961 as a Lecturer at the University of Manchester. There Keith met his future wife Barbara. In 1966, Keith moved to the new University of Warwick, where his interests shifted towards the then developing field of industrial economics. In 1970 he was appointed the Clarkson Chair in Industrial Economics in the newly formed economics department, at the age of 33. As Head (1975-1978), he was instrumental in the transforming Warwick to a world leading economics department (Waterson 2003).

Keith became a pioneer and key figure in a number of areas in industrial economics, including mergers and acquisitions, advertising, the theoretical determination of Structure, Conduct Performance (SCP) relationships and the welfare losses of monopoly power. He was informed and motivated by real life challenges of real life people and aimed to find solutions that fostered social welfare by leveraging the power of theory and evidence. In mainstream IO he was mostly famed for his work on SCP and monopoly power. Building upon this contribution, Keith also became renowned for being critical of contemporary capitalism, arguing that its concentration tendencies rendered it prone to abuse of corporate power and paved the way to stagnation and crises. In doing so, he provided an insight into how the micro (firm and industry) level-foundations of the industrial economy impacted upon macro-economic performance. He cross-fertilised mainstream and radical approaches to economics and was widely respected for his conceptual, mathematical and empirical rigour. Below, we highlight his major contributions in the fields of IO, international political economy and public policy.

## 2. The Theoretical Specification of SCP

Pre-IO industrial economics was mostly empirically-oriented. In the SCP paradigm, under profit maximising conduct by firms, the structure (notably degree of concentration) of the industry was seen as the key determinant of industry performance (profitability). A positive link was interpreted as implying a high degree of monopoly, inviting public anti-trust policies. Numerous studies had tested this relationship (see Scherer, 1970) with mixed results. The nearest to a conceptual framework at the time was the limit pricing model of Modigliani (1958) which under the 'Sylos postulate' (where incumbents and potential entrants share the same understanding of anticipated incumbent conduct), predicted prices are above competitive but below monopolistic levels depending on the strength of entry barriers. The work of Cowling and his then student Michael Waterson (C&W) were to change all that, providing the first mathematical specification of SCP

relationships. C&W (1976) started by assuming a profit maximising firm and showed that the industry price cost margin was related negatively to income elasticity of demand and positively to the degree of collusion and the Herfindahl index of concentration. While an identity, and not a causal link, the equation was interpreted as a mathematical derivation and confirmation of SCP.

Subsequent work on contestable markets by Baumol (1982) and his associates (alongside the earlier limit pricing model) could then be seen as variations on the Cowling-Watson 'generalised oligopoly' model (Pitelis, 1990). In this sense and perhaps ironically given his subsequent critical stance, Cowling became a co-founder also of the emerging field of IO with its emphasis on rational choice and mathematical rigour. The choice of name of the newly founded *IJIO* was testament to that. The empirical part of Cowling and Watson (1976) drew attention to that extant SCP empirical studies suffered from omitted variable bias, especially regarding the industry price elasticity of demand. The authors sought to adjust for this in a way that predated the subsequently routinely used first-differences approach. In a later joint paper with his student Roger Sugden (1989), Keith expanded this relationship to include the role of transnational firms. Among others, the C&W model established the Herfindahl index as the theoretically relevant index of concentration. This influenced scholarly and policy work (Dansby and Willig, 1979, Farrell and Shapiro, 1990) and along with Stigler's (1964) theory of oligopoly, served as an antecedent for the use of the Herfindahl in the landmark US Horizontal Merger guidelines first published in 1982 and revised many times since (Watson, 2003).

Building upon C&W, Keith went on to link excess capacity to the degree of collusion (Cowling 1982), drawing on Steindl (1952) and Spence (1977). Following the last mentioned, it had become accepted that credible commitments in terms for example of investments in excess capacity could help incumbents maintain monopoly prices even in the presence of the threat of potential entry. Excess capacity could involve physical production, but also advertising, R&D and brand proliferation (Smiley, 1988). Cowling went further in positing that investments in excess capacity, could also incentivise incumbents facing potential entry to bolster the degree of collusion, leading to a positive link between the threat of entry and the degree of monopoly-an outcome that turned conventional wisdom on its head (Cowling, 1982, 1983) and a potent critique of contestability.

Another landmark paper, reprinted four times, and described as one of '*the two seminal articles on measuring economy wide losses from market power*' (Church and Ware, 2000, p.43) was Cowling and Mueller (1978). The authors argued that existing analyses underestimated the true size of monopoly welfare losses. They pointed out that in Harberger's (1954) original article, the assumption of an industry price elasticity of demand equal to -1, would imply pricing at zero marginal costs. In the case of a linear demand and marginal revenue curves, monopolists would produce half of that of the competitive outcome and allocative inefficiency would become equal to half the observed value of monopoly profits. They also raised concerns with other assumptions and estimates and after having first corrected for these, and accounting for rent seeking and 'wasteful' advertising expenditure, they estimated monopoly welfare losses of approximately 7 and 13% of 'Gross Corporate product' for the UK and the USA- well above Harberger's original estimates of between 0.1 and 1% of US GNP.

Advertising was a long term interest for Keith. In the mid 1970's, he led a Warwick study exploring its relationship with concentration and profitability across a number of industries (Cowling et.al, 1975). These included the automotive market, coffee and cigarettes which had wider implications for both competition and health policy (see also Cowling and Cubbin, 1971; McGuinness and Cowling, 1976). In the early 1980s - and in what he regarded as his favourite paper - he explored with John Brack, the impact of advertising intensity upon work-leisure choices. Standard neoclassical theory predicted that rises in real wages should lead workers to reduce their working hours in favour of greater leisure time, since the income effect (from higher real wages) dominates the substitution effect, and indeed this occurred during the nineteenth century. However, in the twentieth century this began to reverse, with total working hours in the USA increasing. Using US data, Brack and Cowling (1983) demonstrated how this reversal was related to advertising intensity. More recent evidence suggested that advertising continued to distort US work-leisure choices (Cowling, 2006; Cowling et.al, 2011).

### **3. Monopoly Capitalism, International Political Economy and the Theory of the Firm**

The aforementioned contributions provided the foundations for what Keith regarded as his most important contribution, his book *Monopoly Capitalism* (1982). In line with Baran and Sweezy (1966) and drawing on the earlier work of Kalecki (1971), he was concerned that in the absence of rigorous anti-trust policy, monopolisation would lead to abuse of corporate power and eventually to stagnation. His basic premise was a rise in industrial concentration impacted upon prices, distribution and demand-a link first drawn in a *European Economic Review* article (Cowling, 1976). That involved a direct aggregation from the C&W identity where the left hand side scaled up to the economy-wide share of profits. A rise in the economy-wide degree of monopoly would lead to a decline in the relative income share of labour and help precipitate stagnation, bolstered further by a decline in saving resulting from increased control of corporate retentions and pension fund surpluses (Pitelis, 1987). Moreover, firms would experience an increase in unplanned excess capacity which, in addition to serving as entry deterrent, could though the threat of retaliation help sustain the degree of monopoly and collusion during a slump (Cowling, 1983, Branston et.al 2014).

In Cowling and Sugden (1987, 1994), this approach was extended to the global economy, where the activities of transnational corporations were seen as exacerbating stagnationist tendencies, also because of their mobility and (concomitant) power over labour ('divide and rule') and governments, that helped increase the aggregate profit share. The consequence was de-industrialisation, deficient demand and the undermining of local development initiatives (see also, Cowling and Tomlinson, 2005).

The focus on transnational firms, also led to a critical reappraisal of the theory of the firm. Following Coase (1937) and Williamson (1975), firms were seen as internal hierarchies which co-ordinate production to economise on transaction costs, with their boundaries determined at the point where a further internal transaction would cease to reduce market transaction costs, at which point market exchange was as efficient. Drawing on an earlier paper by Pitelis and Sugden (1986), Cowling and Sugden (1998) regarded the boundaries of a firm as being determined by the locus and reach of their strategic decision-making. They defined the firm as '*the means of co-ordinating production from one centre of strategic decision-making*' (*ibid*, p.67). Unlike conventional

approaches, this definition would for example include activities by some subcontractors. Cowling and Sugden (1998a) also focused on challenges posed by the hierarchical nature of modern corporation, whereby strategic decisions are often taken in corporate boardrooms by elites with little regard to wider stakeholder and systemic interests. The outcome would be one of 'strategic failure' from the perspective of the public interest (Branston et al, 2006). A case in point was the global off-shoring activities of Japanese transnationals during the 1990s, which precipitated and exacerbated the 'hollowing out' of Japanese industry (Cowling and Tomlinson, 2000, 2002).

#### **4. Industrial and Trade Policy**

Keith's interest in anti-trust went back to his work on mergers and acquisitions (Cowling et al, 1979) and his proposal for tighter regulation of mergers. That led naturally to the issue of public policy, in particular industrial policy, later in its link to trade policy. In this regard, he argued that understanding economic governance processes was critical in achieving outcomes in the wider public interest, and given the deindustrialisation of the UK's manufacturing base in the 1980s and 1990s - exacerbated by the activities of transnational corporations - he became a strong advocate of anti-trust, industrial and regional policy and keen to explore alternative possibilities for industrial development. In Cowling and Sugden (1998b) the authors revisited the free versus strategic debate issue drawing on their earlier work. They stated that in the context of transnational firms, 'free trade' itself could be seen as a form of strategic trade.

In UK national politics, he played a significant role in an informal 'think tank' set up by Bryan Gould and subsequently taken up by John Smith, then Labour Leader of the Opposition (Cowling et al, 1989, Cowling and Sugden, 1992). He was especially influenced by the work of Piore and Sabel (1984) who began to see the potential of so-called 'non-hierarchical' and more co-operative modes of production, specifically in regional clusters or industrial districts of independent small and medium sized enterprises (SMEs) such as in the Emilia Romagna region of Northern Italy. In Cowling and Sugden (1999), they advocated the nurturing and development of multinational webs of SMEs to facilitate (international) co-operation in production activities. Keith was interested in international experiences of industrial policy, and emphasised the importance of underpinning industrial strategy with more inclusive economic governance structures for it to effectively foster the public interest (Cowling and Tomlinson, 2011).

#### **5. Epilogue**

During his life, Keith sometimes expressed frustration that mainstream journals were becoming increasingly reluctant to hosting challenging ideas while his radical counterparts sometimes labelled his approach as 'Neoclassical Marxism'. Over time, however his ideas and interests became the staple of modern discourse, mainstream and post-classical (Pitelis, 2016). In IO his early work continues to hold significant influence among scholars (e.g. Fabra, 2006). More widely, unfettered corporate power, sometimes through share buy backs and non-voting shares, and its link to political power (Zingales, 2017), income distribution and the wage share (Piketty, 2014), advertising and fake news helping to determine elections, stagnating economic performance (Gordon, 2015) and the latest economic crisis, are now the order of the day leading to the current disillusionment with capitalism which threatens democracy and global stability (Pitelis, 2017). Keith would not fail to see the irony that while some of his ideas were seen by some as rather

radical, they are now at the forefront of scholarly and policy discourse. Industrial strategy has become no less than the flagship policy of the current UK Conservative government (Bailey et.al. 2015), strategic trade policies are at the heart of Donald Trump's administration and the Brexit negotiations, while the EU Commissioner for Competition Margrethe Vestager has acquired a near heroic establishment status, for her epic battles against alleged power abuse and the related issue of tax avoidance by today's big tech monopolists.

## References

- Bailey, D., Cowling, K., & Tomlinson, P. R. (2015) *New perspectives on industrial policy for a modern Britain*. Oxford: Oxford University Press.
- Baran, P.A. & Sweezy, P.M (1966) *Monopoly Capital*, Harmondsworth: Penguin
- Brack, J., and Cowling, K (1983). 'Advertising and labour supply: Workweek and work year in US manufacturing industries, 1919–76'. *Kyklos* 36: 285–303
- Branston, J.R Cowling, K Sugden, R (2006) 'Corporate Governance and the Public Interest', *International Review of Applied Economics*, 20(2), pp.189-212
- Branston, J.R, Cowling, K & Tomlinson, P.R. (2014) 'Profiteering and the Degree of Monopoly in the Great Recession: recent evidence from the US and the UK'. *Journal of Post Keynesian Economics*, Vol 37, No.1, 135-162
- Church, J & Ware, R (2000) *Industrial Organisation: A Strategic Approach*, Boston, MA: Irwin McGraw-Hill
- Coase, R (1937) 'The Nature of the Firm', *Economica*, 4 (16): 386–405.
- Cowling, K & Sugden R. (1992). *Current Issues in Industrial Economic Strategy*. Manchester, United Kingdom: Manchester University Press
- Cowling K, Geroski P, Gould B, Knight B, Minns R, Neuburger, H, Rogers, M, Sawyer, M, Stanley, N, Totterdill, P, Sugden, R & Waterson, M (1989). *Beyond the Review: Perspectives on Labour's Economic and Industrial Strategy*. London, United Kingdom: Industrial Strategy Group.
- Cowling, K (1976) 'On the theoretical specification of industrial structure-performance relationships', *European Economic Review*, No 8 (1), July, 1-14
- Cowling, K (1982) *Monopoly Capitalism* London: The MacMillan Press
- Cowling, K.G. (2006). 'Prosperity, depression and modern capitalism'. *Kyklos* 59, no. 3: 369–81.
- Cowling, K., Cable, J., Kelly, M. and T. McGuinness (1975), *Advertising and Economic Behavior*, London: The Macmillan Press, Ltd.
- Cowling, K & Cubbin, J (1971) 'Price, Quality and Advertising Competition: An Econometric Analysis of the UK car market', *Economica*, 38, 378-94
- Cowling, K & Mueller, D (1978) 'The Social Costs of Monopoly Power', *Economic Journal*, Vol. 88, issue 352, 727-48
- Cowling, K, Poolsombat, R & Tomlinson, P.R. (2011) 'Advertising and Labour Supply: Why do Americans work such long hours?', *International Review of Applied Economics*, Vol 25, No.3, May, 283-301.



- Cowling, K, Stoneman, P, Cubbin, J, Cable, J, Hall, G, Domberger, S & Dutton, P (1979) *Mergers and Economic Performance*, Cambridge: Cambridge University Press
- Cowling, K & Sugden, R (1987) *Transnational Monopoly Capitalism*, Brighton: Wheatsheaf
- Cowling, K & Sugden, R (1994) *Beyond Capitalism, Towards a New World Order*, London: Pinter
- Cowling, K & Sugden, R (1998a) 'The Essence of the Modern Corporation: Markets, Strategic Decision-Making and the Theory of the Firm', *The Manchester School*, 66 (1), January, 59-86
- Cowling, K & Sugden, R (1998b) 'Strategic Trade Policy Reconsidered: National Rivalry vs Free Trade vs International Co-operation', *Kyklos*, 51, 3, 339-357
- Cowling, K. and Sugden, R. (1999). "The Wealth of Localities, Regions and Nations: Developing Multinational Economies". *New Political Economy*, vol. 4, no. 3, pp. 361-378.
- Cowling, K & Tomlinson, P.R (2000) 'The Japanese Crisis: A Case of Strategic Failure?', *The Economic Journal*, Vol 110, No. 464, F358-F381
- Cowling, K & Tomlinson, P.R. (2002) 'Revisiting the roots of Japan's economic stagnation: the role of the Japanese corporation', *International Review of Applied Economics*. 16 (4), p 373-390.
- Cowling, K & Tomlinson, P.R. (2005) 'Globalisation and Corporate power', *Contributions to Political Economy*. 24 (1): 33-54.
- Cowling, K & Tomlinson, P.R (2011) 'Post the 'Washington Consensus: Economic Governance and Industrial Strategies for the 21st Century'. *Cambridge Journal of Economics*, 35, no.5, 831-852.
- Cowling, K & Waterson, M (1976) 'Price-Cost Margins and Market Structure', *Economica*, 43, 267-260
- Dansby, R & Willig, R (1979) 'Industry performance gradient indices', *American Economic Review*, 69, 249-260
- Fabra, N (2006) 'Collusion with capacity constraints over the business cycle', *International Journal of Industrial Organisation*, 24, 69-81
- Farrell, J & Shapiro, C. (1990) 'Horizontal mergers: an equilibrium analysis', *American Economic Review*, 80, 107-126
- Harberger, A. C. (1954). "Monopoly and Resource Allocation." *American Economic Review*, vol. 45 (May), pp. 77-87.
- Kalecki, M. (1971). *Selected essays on the dynamics of the capitalist economy 1933-1970*. Cambridge University Press: Cambridge.
- McGuinness, T & Cowling, K (1976) 'Advertising and the Aggregate Demand for Cigarettes', *European Economic Review*, 6 (3), 311-328

- Modigliani, F (1958) 'New Developments on the Oligopoly Front', *Journal of Political Economy*, 66 (June); 215-232
- Piketty T (2014) *Capital in the Twenty-First Century*, Cambridge, MA: Belknap Press,
- Piore, M & Sabel, C (1984) *The Second Industrial Divide: Possibilities for Prosperity*. New York: Basic Books
- Pitelis, C. N. (1987) *Corporate Capital, Control, Ownership, Saving, and Crisis*, Cambridge University Press, Cambridge and New York
- Pitelis, C.N (1991) *Market and non-Market Hierarchies*, Oxford, Blackwells
- Pitelis, C.N (2016) 'Learning, innovation, increasing returns and resource creation: Luigi Pasinetti's original sin of, and call for a post-classical, economics', *Cambridge Journal of Economics*, Vol 41 (3), 679-691
- Pitelis, C.N (2017) 'Europe in and the Question of Europe-An(d) Capitalism: A review of Stuart Holland's 'Europe in Question'', *Cambridge Journal of Economics*, *forthcoming*
- Pitelis, C. N & Sugden, R (1986) 'The Separation of Ownership and Control in the Theory of the Firm: A Reappraisal' *International Journal of Industrial Organisation*, 4(1): 69-86, April
- Scherer, F. M. (1970). *Industrial Market Structure and Market Performance*. Chicago, Houghton Mifflin,
- Smiley, R (1988). 'Empirical Evidence on Strategic Entry Deterrence', *International Journal of Industrial Organisation*, 6: 167-180.
- Spence, M. "Entry, Investment and Oligopolistic Pricing." *Bell Journal of Economics*, 1977, 8 (2), 534-544.
- Steindl, J. (1952) *Maturity and stagnation in American capitalism*. Oxford: Blackwell.
- Stigler, G.J (1964) 'A Theory of Oligopoly' *Journal of Political Economy* 72, no. 1 (Feb): 44-61
- Waterson, M (2003) *Competition, Monopoly and Corporate Governance, Essays in Honour of Keith Cowling*, Edward Elgar, Cheltenham
- Williamson, O.E. (1975) *Markets and Hierarchies: Analysis and Antitrust Implications*, New York: The Free Press
- Zingales, L (2017) 'Towards a Political Theory of the Firm', *Journal of Economic Perspectives*, Vol 31, No 3, 113-130